

BENCHMARKS

THE COMPUTING CENTER

UNIVERSITY OF NORTH TEXAS
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JUNE/JULY 1988

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SERVICES AVAILABLE TO USERS OF THE UNT COMPUTING FACILITIES

The Unt Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center: (817) 565-2324
Help Desk: (817) 565-4050
Graphics Lab: (817) 565-3479
ISB I/O Area: (817) 565-3890
BA I/O Area: (817) 565-2350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on MUSIC/SP (ID-codes follow each name. All IDs are on BITNET node UNTMUSIC).

BENCHMARKS - Claudia Lynch (AS04)

Information & ID-Codes; Disk Space Problems - Computing Center Staff

Statistical/Research Support - George Morrow (AS01), Scott Barber (AC10), Phanit Laosirirat (AC44), Jim Aman (AC29)

Academic ADABAS/COM-LETE - Computing Center Staff

CRSP & COMPUSTAT Problems - George Morrow (AS01)

Student Programming Problems - CSCI Dept., GAB Room 542A; BCIS Dept., BA Room 152

Problems with JCL, Passwords, or Operating Systems; or Communication/Terminal Problems - Help Desk

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BA I/O Operators



DIALING-UP UNT COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565-3300
 (817) 565-3499

2400/1200/300 BAUD: D/FW METRO 429-6006

1200 BAUD: D/FW METRO 429-9314

The numbers that accomodate multiple baud rates have an autobaud feature that requires you to hit the <RETURN> key repeatedly so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, the # prompt will appear on your screen and you can enter one of following CALL commands to connect with the computer of your choice.

CALL 8040 connects with the NAS/8083 (supports line editing or PCWS). Operating environments available are: MUSIC/SP, VM/CMS.

CALL 3270 connects with the NAS/8083 through a 3270 protocol converter (supports full-screen editing). Operating environments available are: MUSIC/SP, VM/CMS, ADABAS/COM-LETE, PHOENIX

CALL DEC connects with the VAXcluster (VMS, Eunice)

CALL 780 connects with the Research VAX (Unix)

CALL 3000 connects with the Libraries' HP-3000 (Bibliographic data base).

CALL 6800 connects with the NBI (Unix)

HOURS FOR NTSU COMPUTER ACCESS AREAS : SUMMER 1988*

Location	Times	Days
Computing Center RJE	Noon-Midnight 7 a.m.-Midnight 7 a.m., Tuesday-Midnight, Saturday (Open 24 hours/day)	Sunday Monday Tuesday-Saturday
ISB 110 Terminal Area	2-10 p.m. 7:30 a.m.-10 p.m. 7:30 a.m.-6 p.m. 9 a.m.-6 p.m.	Sunday Monday-Thursday Friday Saturday
College of Business	Noon-11:45 p.m. 8:15 a.m.-11:45 p.m. 8:15 a.m.-7:45 p.m.	Saturday, Sunday Monday-Thursday Friday
GAB 550C	1 p.m.-11 p.m. 9 a.m.-11 p.m. 9 a.m.-1 p.m. CLOSED	Sunday Monday-Thursday Friday Saturday
Graphics Lab	Noon-10 p.m. 8 a.m.-11 p.m. 8 a.m.-8 p.m. 10 a.m.-8 p.m.	Sunday Monday-Thursday Friday Saturday

*Hours may vary. Check MUSIC/VAX News and/or posted schedules for exceptions.

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GENERAL INFORMATION

University Name Change Effects Computer Users

May 15, 1988 was the day that North Texas State University officially became the *University of North Texas*. From that day forward, any reference to the University must be made using the new name. Among a myriad of other things effected by this change in nomenclature are the BIT-NET node names. Outgoing mail and messages will automatically reflect the new name change. Please be sure to use the new node names, listed below, when referring to your BIT-NET ID-code.

- VAXcluster: UNTVAX
- MUSIC: UNTMUSIC
- CMS: UNTVM1

2400 BPS Metro-line Access Available

The Computing Center is happy to announce the installation of eight 2400/1200/300 BPS modems on metro-line number 429-6006. Callers to this number can now access MUSIC, CMS, the VAXcluster, or the UNIX machines using their 2400, 1200, or 300 BPS modems. These metro-line modems have undergone testing to ensure, as much as possible, correct operation. If you have any trouble accessing these dial-up lines, please contact the Computing Center offices (817/ 565-2324) and report your difficulties so that we can immediately investigate any possible problems. 1200 BPS metro-line access is still available at 429-9314. Consult page i of this issue for more information on dial-up phone numbers. ♦

ACADEMIC COMPUTING SERVICES

Staffing Changes

VAX System Manager Chosen

Billy Barron, Acting VAX System Manager since this past January, was informed in May that he could remove the word "acting" from his job title. After interviewing many candidates for the position, it was determined that Billy was indeed the best person for the job. We congratulate Billy and look forward to benefiting from his expertise for some time to come.

Cicchitto Moves to the School of Community Services

Nelson Cicchitto, a part-time employee for Academic Computing Services since 1986, has accepted another part-time position within the University. He will be assisting with the management of the School of Community Services' microcomputer network in Oak Street Hall. We wish Nelson the best of luck in his new position and look forward to having continued interaction with him. Nelson's part-time position in Academic Computing Services remains unfilled at this time.

Widmer Becomes Voice Response Analyst

Sean Widmer, Academic Database Consultant since November of 1987, has accepted the position of Voice Response Analyst in the Administrative Information Systems portion of the Computing Center. We wish Sean the best of luck in his new position and are glad that he will

remain within the Computing Center. The position of Academic Database Consultant remains unfilled at this time.

Goodman Joins the Institute of Applied Sciences

Carolyn Goodman, Administrative Assistant in the Computing Center since 1982, has accepted a similar position in the Institute of Applied Sciences. We are glad that Carolyn has chosen to stay at the University of North Texas and wish her the best of luck in her new position. The position of Computing Center Administrative Assistant remains unfilled at this time. ♦

USER-ID Requests

Faculty members requesting User-IDs for summer classes should indicate on the blue F-020-01 "Computing Center New USER-ID Request Form" if the class will be meeting **both Summer I and II terms**. A white Classroom ID Usage Projection form should be completed in addition to the blue request form. Come to the main Computing Center Office -- Information Science Building, Room 119, (817) 565-2324 -- should you require assistance in obtaining or completing these forms.

Individual USER-IDs should be renewed soon, also. **Individual faculty and student computer accounts will be deactivated September 1, 1988.** A pink F-020-02 "Computing Center USER-ID Change Form" should be completed early in order to insure access after September 1. ♦

Computing Center Short Courses

The Computing Center is offering the following short courses during the 1988 Summer Sessions. Please pre-register to attend (a registration form is provided at the end of this issue). A maximum of 15 people will be admitted to each of the Introduction to MUSIC/SP classes, parts I & II. A maximum of 20 people will be admitted to each of the remaining classes.

1. **Introduction to MUSIC/SP, Part I** – MUSIC/SP is the primary interactive operating system employed by most academic users to access the NAS/8083 IBM-compatible mainframe computer at UNT. MUSIC users have access to a variety of programming languages, a sophisticated word processing system, and several statistical analysis packages. MUSIC also gives you the capability to submit batch jobs to the MVS operating system. Topics covered include gaining access over the Local Area Network, logging on and off, changing your password, and creating, editing, and storing files using the full-screen editor.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Monday, June 13: 1--3 p.m.

Instructor: Jim Aman

Monday, July 18: 2--4 p.m.

Instructor: Phanit Laosirirat

2. **Introduction to MUSIC/SP, Part II** – This course provides an in-depth look at various useful programs and utilities that are available on MUSIC/SP. Topics covered include accessing on-line help facilities, using electronic mail, routing output to high-speed printers, and writing files to secondary storage such as disk and tape. A working knowledge of MUSIC is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Tuesday, June 14 : 2-4 p.m.

Instructor: Philip Baczewski

Tuesday, July 19 : 3-5 p.m.

Instructor: Philip Baczewski

3. **Introduction to IBM Job Control Language (JCL)** – This course provides an overview of IBM JCL for users who wish to further their knowledge in this area. It is useful to individuals who plan to run batch jobs (e.g. SAS, SPSS^X, BMDP) on the IBM-compatible mainframe computer.

A two-hour session to be held in ISB 123:

Monday, June 13: 1-3 p.m.

Instructor: George Morrow

4. **Introduction to SAS** – SAS is one of the most widely implemented data analysis systems within business and education. SAS is particularly well suited for data set manipulation and includes an extensive procedure library providing a wide range of analytical tools. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SAS, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. Prior knowledge of MUSIC/SP is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Wednesday, June 15: 3-5 p.m.

Instructor: Phanit Laosirirat

Wednesday, July 20: 1-3 p.m.

Instructor: Scott Barber

5. **Introduction to SPSS^X** – SPSS^X is the latest version of this popular data analysis system originally developed for social scientific research. While SAS is slightly more powerful for the analysis of complex datasets, many users find SPSS^X to be easier to learn. SPSS^X also includes more flexible facilities for collapsing and labeling variables. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SPSS^X, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. Prior knowledge of MUSIC/SP is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Thursday, June 16: 1-3 p.m.
Thursday, July 21: 2-4 p.m.

Instructor: Jim Aman
Instructor: George Morrow

- 6. File Handling with SAS, SPSS^X, and BMDP** – Anyone who uses these common statistical packages frequently should be aware of procedures available to simplify reading and processing datasets. Variable formats, labels, and computed variable information can be stored in a dataset and recalled in a future job with one command. This course shows you how to use simple JCL along with the statistical software to make your jobs run much more quickly and smoothly. Familiarity with at least one of the packages mentioned is necessary.

Two separate two-hour sessions to be held in ISB 123:

Monday, June 20: 2-4 p.m.
Monday, July 25: 3-5 p.m.

Instructor: Scott Barber
Instructor: Scott Barber

- 7. Introduction to VAX/VMS, Part I** – VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAXcluster. Nearly all popular programming languages are supported under VMS. The topics covered in this course include gaining access to the VAXcluster through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, and defining logicals and symbols.

Two three-hour sessions to be held in Room 110 of the Science Library (ISB).

Monday, June 20: 2-5 p.m.
Monday, July 25: 2-5 p.m.

Instructor: Billy Barron
Instructor: Billy Barron

- 8. Introduction to BITNET** – BITNET is a network linking more than 600 computers at over 300 institutions and research centers. This course covers the basic concepts of BITNET, file transfers across BITNET sites, and other services that are available on this computer network. Faculty and graduate students needing to exchange information with other universities and research institutions in the U.S., Canada, Europe, or Japan will benefit greatly from attending this course. **Prior knowledge of at least one of the following interactive operating systems is required: CMS, MUSIC, VAX.**

A two-hour session to be held in Room 110 of the Science Library (ISB):

Thursday, June 16: 3-5 p.m.

Instructor: Philip Baczewski

- 9. Introduction to PROCOMM and PCWS** – Both of these short courses deal with Personal Computer to mainframe communications. **Introduction to PCWS** presents an overview of using PC Work Station, a communications package which is specifically written to allow terminal access and file transfer capabilities between an IBM PC or compatible and the MUSIC/SP operating system. Topics covered include setting up PCWS communications parameters, connecting to MUSIC over the UNT local area network, using PCWS's full-screen capabilities, and using PCWS for file transfer between MUSIC and the PC. **Introduction to Procomm** presents an overview of the Procomm communications package for Personal Computers or compatibles. Procomm provides several different terminal emulation modes, and supports several file transfer protocols including KERMIT and XMODEM. Topics covered include setting communications and file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT mainframes through the local area network.

These courses will be held in Terrill Hall, room 247, at the following times:

Introduction to Procomm:

Wednesday, June 22, 2-3 p.m.

Introduction to PCWS:

Instructor: Scott Barber
Wednesday, June 22, 3-4 p.m.
Instructor: Philip Baczewski

Introduction to Procomm:

July 26, 2-3 p.m.

Introduction to PCWS:

Instructor: Scott Barber
July 26, 3-4 p.m.
Instructor: Philip Baczewski

Beware of Trojan Horses and Viruses

Reprinted, with minor changes, from an article in the Virginia Polytechnic Institute and State University Computing Center LOG 88, Volume 21, Issue 1.

Mainframe and PC users alike should be aware of **dangerous** computer programs that can destroy valuable data or cause embarrassment and frustration for the user or for others. Dangerous programs can even cause costly hardware damage.

Actually, any computer program can be a dangerous program. Programs such as FORMAT, ERASE and DISCARD must naturally be used with great care. It is not uncommon for an experienced user to accidentally erase the wrong file. Normally harmless application programs such as editors may contain "bugs" that can cause data loss under rare conditions. The PC editor PCX is one example.

Malicious Programs

Unfortunately, there are programs whose sole purpose is to damage or embarrass the user. Such malignant programs are commonly disguised with harmless or familiar names. Often, such programs do their damage while simultaneously appearing to perform their intended function.

These intentionally destructive programs are commonly referred to as Trojan Horses, after the gift horse to Troy in the Greek legend. These programs are a dangerous threat to harddisk owners who commonly download public domain code from bulletin boards. Disguised as a useful utility, these programs are actually intended to erase an unsuspecting user's harddisk and floppies. Some Trojan Horses are designed to damage monitors.

A variation of the Trojan Horse is the Virus. Like the Trojan Horse, the a-Virus is intended to cause damage or embarrassment to the user. However, the Virus is capable of spreading itself throughout the user community or throughout the users' diskette collection.

The following list (derived from an article appearing in the November/December 1987 issue of the *Campus Computing Newsletter* from the University of Missouri-Columbia) contains the names of some known Trojan Horses and Viruses. Please note that there are legitimate programs with some of these names also.

ARC	ARC513
ARC514	BACKTALK
CDIR	COMMAND
DANCERS	DISKSCAN
DMASTER	DOSKNOWS
DPROTECT	DROID
EGABTR	EMMCACHE
FILER	FINANCE4
FUTURE	NOTROJ
PACKDIR	PCW271xx
QUICKREF	QUICKRBBS
RCKVIDEO	SECRET
SIDEWAYS	STAR
STRIPES	TIRED
TOPDOS	TSRMAP
VDIR	



CAVEAT COMPUTOR

This is by no means a comprehensive list. One Virus not on the list is the CHRISTMA EXEC. It ran rampant on BITNET just before Christmas last year. Sending itself to every destination it could find in the users' NAMES and NETLOG file, the CHRISTMA EXEC quickly infected many VM1 and VM2 users. Several other Trojan Horses and Viruses have made national as well as international news lately.

Precautions

It is probably impossible for the user to be completely safe from the dangers presented by Trojan Horses or bug ridden code. However, there

are some guidelines that can help to insure a safe computing environment.

One important rule is to **never execute or run a program unless you are absolutely sure of what the program does**. In the CMS environment, any file with a filetype of EXEC or MODULE is a computer program and can be executed just by entering its name. An EXEC or MODULE is therefore a potentially dangerous program. Likewise, .COM, .EXE, and .BAT files in MS or PC-DOS or .EXE files in VAX VMS are potential dangers.

In the CMS environment, it can also be dangerous to link to another user's minidisk. This gives you access to all of his or her programs, the function of which you may not fully understand. Use caution when linking to other User-IDs. Never link to another User-ID unless there is a specific reason. Always drop the link, or log-off and log back on, when the link is no longer required.

Since it is impossible to execute a dangerous program if you do not have access to it, another rule is to **never RECEIVE an EXEC or MODULE (or any other type of executable file) unless you are absolutely sure of what it does**. Be especially aware if the program has a name identical to that of a program you normally use.

A configuration file such as a PROFILE EXEC, PROFILE XEDIT or AUTOEXEC.BAT is also a potential source of danger. Be wary of receiving a friend's favorite PROFILE, it may cause unexpected problems. And never receive such a file or program from a stranger.

Likewise, never share a program with another user unless they fully understand how the program works. Never give a program to another unless they have first asked for it. Distributing a program intended to cause **malicious damage is punishable under current law**. The Computing Center will take appropriate action on any such cases it discovers.

Do share any knowledge you may have of dangerous programs. If you suspect a program to be a Trojan Horse or a Virus, warn others of possible danger. If you receive such a file on a Computing Center computer system, notify the Computing Center at 565-2324 and then purge the file. If you receive such a file from a bulletin board, warn the board's operator so it can be removed.

Preventive Programming

By Claudia Lynch, *Benchmarks*
Editor (AS04@UNTVM1)

Fear of computer 'viruses,' such as those mentioned in the preceding article, has spawned a plethora of programs whose purported purpose is to 'cure' the effected machine (I couldn't help myself). Linda Bridges in her article "Multiple 'Vaccines' Cure Computer 'Viruses' " (P.C. Week, Vol. 5 No. 4, April 5, 1988), reviewed some programs, listed below, who claim to have a sure cure for those pesky electronic viruses. Most of the programs are for PCs, although the last three appear to be aimed at both the mainframe and PC markets.

- **Antidote** - \$60 from Quaid Software (416) 961-8243.
- **Vaccinate** - \$195 from Sophco, Inc. (800) 922-3001.
- **Dr. Panda Utilities** - \$79.95 from Panda Systems (302) 764-4722.
- **C-4** - \$29.95 from InterPath Corp. (408) 988-3832.
- **Disk Watcher** - \$79.95 from RG Software Systems (215) 659-5300.
- **VirusSafe** - \$250 from ComNetco Inc. (201) 953-0322.
- **Passcode** - \$200-\$2,000 from Security Dynamics, Inc. (617) 547-7820.
- **VirAlarm** - (No price listed) from Lasertrieve Inc. (201) 906-1901.
- **Virus Implant Protector** - (No price listed) from LeeMah Data-

Com Security Corp. (415) 786-0790

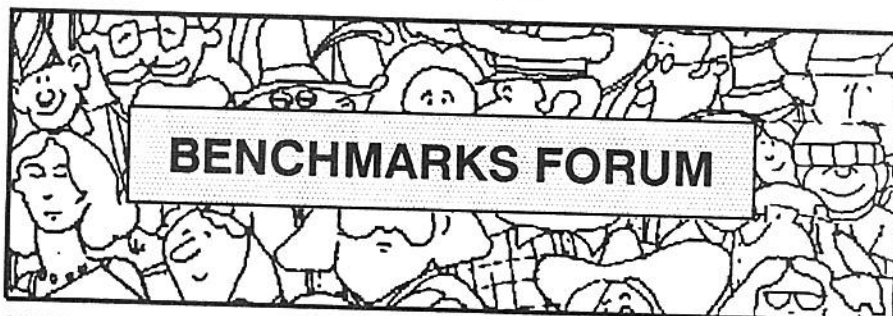
Another source of electronic inoculations is computer bulletin boards. The UNT BBS, for example, has a program called Vaccine on it which is available free-of-charge to anyone who wants to sign-on and download it.¹

If you want to ferret out the offending code in your contaminated programs, you might be interested in a program

called **Sourcer**.² According to an article in *PC Magazine* (April 26, 1988, p. 46), Sourcer disassembles and documents machine code, features which could prove useful for many other things besides locating 'viruses.'

¹For more information about the UNT BBS, consult the March/April/May 1988 issue of *Benchmarks*, page 1.

²\$139.99 from V Communications (408) 296-4224.



BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the *Benchmarks* editor (AS04@UNTVM1) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.

Question: When I run the NTSUCOM program I got with PCWS 1.2, I get a series of "Resetting modem" messages, and I can never get a call through to the system. If I make the call manually by entering ATDT5653499 from the command line, I can get in, but then the NTSUHANG program won't hang up the phone. What's wrong?

Answer: Often, the problem with the automatic disconnect is that the modem is not responding to the "attention" or disconnect commands in the hang-up subroutine of the PCWS script file. This may be because the modem is not completely Hayes com-

patible, or because it is not presently configured for English responses. Regardless, if your modem doesn't understand the AZT command, it will not respond OK like the .SCR files expect.

To fix this, load the NTSUHANG.SCR (or NTSUCOM.SCR) file into an editor that can output ASCII format files (EDLIN, Sidekick, Wordstar in non-document mode, etc.) Find the modem reset subroutine (RESET_MODEM) and change the ATZ command to AT. Alternatively, you can look in the modem manual for the command to reset the modem to the original parameter settings (which is what ATZ is trying to do).

If your modem displays an AT command prompt such as a > character, you will want to change either the OK prompts in the .SCR files to > or set your modem to respond with English commands (i.e. OK instead of >). See your manual for the appropriate command for setting the modem prompt.

Benchmarks Reader/User feedback is encouraged. Send all letters, suggestions, etc to (AS04@UNTVM1) or to the Benchmarks Editor at:

University of North Texas Computing Center
NT Station, Box 13495
Denton, Texas 76203

MICROCOMPUTERS

PRODUCT REVIEW

HotWare: Making NetWare Life Easier

By Jim Aman, Academic Computing Staff (AC29@UNTVAX)

Novell's NetWare is the network software in widest use across the campus of the University of North Texas. The package provides sharing of resources without giving up the power, familiarity, and available software of a conventional DOS environment. However, several important functions are either missing or cumbersome in version 2.0a of NetWare: remote troubleshooting, easily accessible printer control, and printer sharing. The HotWare products -- **HotLook**, **HotPrint**, and **HotServer**-- marketed by Ron Turley Computer Associates (Phoenix, Arizona) provide effective solutions to these problems. Over the next few months, I will be reviewing each of these products, starting with **HotLook**.

For many of the network installations at UNT, workstations are located in separate rooms or different floors of a building. When a user has a problem with a program or a question about some procedure, the network manager typically must visit that person's office to provide assistance. Because many troubleshooting calls will have simple solutions, the time lost and the disruption caused by these interruptions could often be avoided by using **HotLook**. This

program allows one computer on a network to be viewed and controlled by another.

HotLook is loaded by typing **HL** at the system prompt. A list of attached workstations is presented on the caller's screen. Using arrow keys to move around the list, a particular user can be selected. This station does not have to be logged in to the network, only attached to it. When selected, the remote screen pops up on the caller's monitor. Keystrokes entered by the caller will be executed on the remote workstation.

Several UNT networks currently load **HotLook** as a part of the login script. Those managers who have used the program to solve problems on remote stations have been enthusiastic in their comments. But reaction from users has been mixed.

The primary concern is a fear of the "big brother" aspect of **HotLook**. As long as the program has been loaded, the screen can be viewed remotely. A workstation user has no control over this situation. The personal aspect of the relationship between a user and a computer seems to be threatened by the invasive nature of the software. Realizing this, the authors of **HotLook** built a number of safeguards into the package. At the top of the list is the use of a designated group of **HotLook** viewers.

NetWare allows the creation of groups of users as a way to control access to programs and functions. A group called **HOTLOOK** can con-

tain a list of those people allowed to view screens, typically the net manager and key troubleshooting personnel. Typing **HL +** or **HL + N** at a workstation cedes screen control only to this group. The same capability may be established by using the **HLCONFIG** configuration utility.

Typing **HL + A** loads the resident portion of **HotLook** but allows any user to control the station. However, this invites the "big brother" problem. Unless the user group is comfortable with the presence of **HotLook**, this capability is not recommended.

The resident portion of **HotLook** need not be retained in memory. Typing **HL -** will unload the program. Any attempt to access the station will result in a timeout message appearing on the viewer's screen.

If a user is known to be attached to the net, the listing of active stations can be bypassed. Typing **HL [User]** gains immediate control of the [User] station. Disconnection returns the viewer to the system prompt.

The final permissible operand is **/D** appended to any command. Under normal operation the name of the viewer will blink in the upper right-hand corner of the controlled screen. Loading **HotLook** with the **/D** operand disables the username display. This option should be used with extreme caution and discretion. Once users find they are being "watched" without notice, privacy is-

sues -- whether well-founded or not -- would be difficult to suppress.

The **HLCONFIG** configuration utility provides additional flexibility for HotLook. Users may be given the capability of bumping a linker; a few taps of the right shift key will break the connection. Also, the ability to remotely reset a computer may be disabled. The resident portion of HotLook can be removed, precluding any remote control. If the configuration is changed, the program must be unloaded from all workstations and reloaded. Workstations using the old configuration cannot be accessed under the new one.

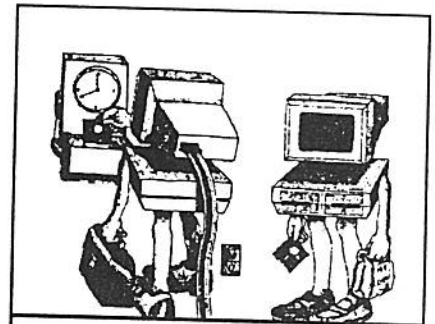
HotLook should be ordered directly from

Ron Turley Computer Associates
1642 W. Sequoia Dr.
Phoenix, AZ 85027
(602) 581-2447.

Although the retail price is \$99, UNT receives special pricing from the publisher. The price should be below \$60 by mid-June. For the current price, contact Larry Turley at the number given above.

HotLook is easy to install, easy to use, and inexpensive. The advantages of HotLook lie in its time-saving capabilities. When workstations are not in close proximity to the net manager, the program can be an important timesaving tool. As the number of networks attached to the broadband grows across the campus, troubleshooting between networks will be an invaluable asset.

If you have questions or comments, or would like a demonstration of HotLook, contact me at the Computing Center (565-2324). ♦



Micro-Tips

This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the BENCHMARKS editor for possible inclusion in a future issue.

Using Command Files With Procomm and PCWS

By Philip Baczewski, *Benchmarks*
Associate Editor (AC12@NTSMUSIC)

Many students and faculty members at the University of North Texas are familiar with using Procomm or PCWS for access to UNT mainframe computing systems via an IBM or compatible personal computer. One aspect of both of these programs which may be unfamiliar to their users is the ability to create command files to automate communications tasks. Those who use PCWS with a modem may have already seen an example of a command file in action if they have used the NTSUCOM or NTSUHANG exec files supplied with that program. This discussion is intended to introduce the command file concept and show examples of some simple command files.

A command file (or exec file as they are sometimes called) contains a series of instructions directing the communications program to perform one or more of its functions. These instructions are contained in a ASCII text file created with a standard editor such as EDLIN. The actual instructions vary depending upon the specific communications program,

OFFICE AUTOMATION NEWS

New Training Videos

The training lab has just received three new video tapes that can be checked out from Sandy Franklin in the Personnel Training Lab and Information Center. The new tapes are:

- *Xerox Ventura Publisher Video Tutor*
- *RBASE System V Learning System*
- *dBASE III Plus Learning System.*

The training videos already in the Training Lab include:

- *Introduction to Lotus 123*
- *Macros and Other Advanced Features of Lotus 123*
- *dBASE III Learning System*
- *Using DOS With Hard Disk Systems*
- *Advanced DOS Commands for Hard Disk Systems*
- *Using the Hewlett Packard Series II Laserjet*

- *WordPerfect - A Video Introduction in Seven Easy Steps.*

Please contact Sandy Franklin at 565-3856 to check out the training videos. If you would like to use them in the lab, please call to schedule a time.

WordPerfect 5.0

A representative from WordPerfect Corporation informed me copies of Version 5 started shipping the week of May 9, 1988. At the time I talked to them, I also requested an evaluation copy so my teaching guides can be updated. I am very anxious to see all the "bigger and better" features that have been promised.

Classes Delayed

There will be no faculty/staff microcomputer classes or SIMS classes scheduled the week of June 6. The painters need to repaint Marquis 105.

"Office Automation News" was submitted by Sandy Franklin, Office Automation Specialist. ♦

but similarities can be found in the concept of these instructions. For example, one function needed to automate communications processes is sending information through the communications port to the host computer. The Procomm instruction for this function is **TRANSMIT**, while the PCWS instruction is **SEND**. Even though each program uses a different syntax, the general command structure and the result are the same.

The types of instructions that make up command files can be generally categorized into three types: "set" commands, communication action commands, and program flow commands. Set commands allow you to change the Procomm or PCWS communications environment from within a command file. Communication actions consist of such functions as transmitting information to the host system, receiving information, initiating file transfers, etc. Program flow commands such as **IF-THEN** blocks and **GOTO** statements allow the evaluation of information and optional execution of instructions based upon such evaluation. The PCWS command language additionally has a set of built-in functions which provide the ability to manipulate character strings as well as providing several other useful functions.

The utility of command files can be illustrated while using only a few of the many instructions available. UNT faculty and students who use Procomm's Kermit implementation to transfer files between their PC and the VAX, MUSIC, or CMS, may know that the VAX requires some different communication and file transfer settings than the IBM systems. If you commonly use Procomm Kermit on both types of systems, you may be faced with the situation of entering Procomm's set-up facility and changing parameters every time you change systems. The use of two simple command files will help simplify the process of changing these communications parameters. Figure 1 shows two Procomm command files, **IBMKERM.CMD** and **VAX-**

KERM.CMD, which use only the **SET** instruction, but allow you to configure your Kermit file transfer parameters through one easy step.

These two files could be stored in your Procomm subdirectory (if you have a hard drive) or on your Procomm diskette and then invoked through the Procomm Command File facility (accessed by pressing **ALT-F5**). In the that facility, files can be selected by typing the file name (without the **.CMD** extension), or by selecting from the scrolling window display of available ".CMD" files. For more information on using Procomm Kermit and an explanation of the parameters referenced in Figure 1, see "Using Kermit with Procomm" in the October, 1987 issue of *Benchmarks*.

Figure 2 shows one Procomm and one PCWS command file which automate the process of signing off of MUSIC. The first listing in the figure shows a

Procomm command file which could be used in the same manner as discussed above. The second listing shows a PCWS example. PCWS command files (or exec files as they are sometimes called) are invoked by pressing **ALT-E** from within the PCWS terminal program, and then typing the name of the command file. One word of warning is necessary about writing PCWS command files. Since character strings sent using the **SEND** instruction (or recognized by the **WAIT STRING** instruction) do not require surrounding quotation marks, it is important that there are no trailing blanks at the end of instructions. If there are, the blanks will be sent (or looked for) along with the specified string, sometimes preventing the command file from working as planned. For this same reason, the comments in the PCWS example are on different lines than the instructions.

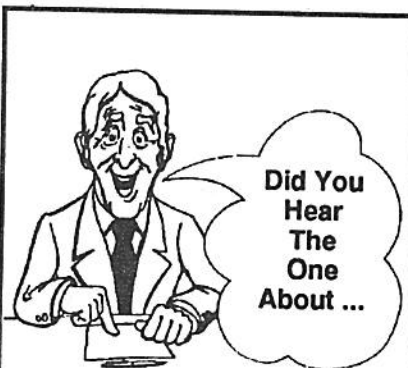
```
;IBMKERM.CMD - Procomm Command File
; (Comments begin with a semi-colon)
SET DUPLEX half
SET PARITY even
SET DATABITS 7
SET FLOWCTRL off
SET KERMIT HANDSHAKE 17
```

```
;VAXKERM.CMD - Procomm Command File
; (Comments begin with a semi-colon)
SET DUPLEX full
SET PARITY none
SET DATABITS 8
SET FLOWCTRL on
SET KERMIT HANDSHAKE 0
```

Figure 1: Two Procomm Command Files for Setting Kermit Parameters

You may notice that the functions performed by both files are basically the same, but the instructions used are different. (An explanation of each instruction's function is given in the listings' comment statements). This similarity points out that when writing command files for either communications program, it is helpful to first outline the functions needed to achieve the intended result before trying to realize them in command file form.

For further information about writing Procomm command files, see Chapter 7 in the PROCOMM.DOC file distributed with Procomm version 2.4.2. For information on writing PCWS "Script" command files, see Chapter 7 of the *Personal Computer Work Station User's Guide*, MUSIC Version 1.2, available at the UNT University Store. ♦



the guy who managed to write a CAD program that stored each line in two bytes or less?

He managed to fit an edge in word-wise.



From *Nutworks*, May 1988.
Submitted by Mike Burden
(MWBURDEN@MTUSS.bitnet)

```
;OFF.CMD - Procomm Command File
; (Comments begin with a semi-colon)
; MUSIC Sign-off Command file
; Procomm / "CALL 3270" version
TRANSMIT "OFF ^M"           ;Send the MUSIC "OFF" command
                             ;" ^M" sends a carriage return
                             ;
WAITFOR "*Good-Bye."        ;Wait for MUSIC's sign-off message
TRANSMIT " ^M"             ;Send a carriage return
WAITFOR "DROP FROM MUSIC"
                             ;Wait for VM message
TRANSMIT "^[ ^M"           ;Escape to LAN
                             ;"^[ " sends an Esc (Escape key)
                             ;
WAITFOR "#"                 ;Wait for the LAN prompt
TRANSMIT "DONE ^M ^M"      ;Disconnect from the LAN
```

```
;OFF.SCR - PCWS Script Command File
; (Comments begin with a semi-colon)
; MUSIC Sign-off Command file
; PCWS / "CALL 8040" version
SET AUTOOCR on
                             ;With AUTOOCR set to "on", a
                             ;carriage return will be sent after
                             ;every SEND command
                             ;
SEND OFF
                             ;Send the MUSIC "OFF" command
WAIT STRING *Good-bye.      ;Wait for MUSIC's Sign-off message
SEND
                             ;Send only a carriage return
WAIT String DROP FROM MUSIC
                             ;Wait for the VM message
SEND |[
                             ;"|" sends an Esc (Escape Key)
                             ;(Return is sent automatically)
WAIT STRING #
                             ;Wait for the LAN prompt
SEND DONE
SEND
                             ;Disconnect from
                             ;the LAN
```

Figure 2: Procomm and PCWS Command Files for Signing Off of MUSIC

VAX COMPUTER CLUSTER

Software Upgrades

EUNICE Upgraded

EUNICE, a UNIX emulation package, was upgraded to version 4.3. This new version is based on the 4.3 Berkeley Software Distribution of VAX UNIX. According to the distributor, this is a major upgrade. Some of the new features are:

- Filenames are no longer restricted to 14 characters.
- Symbolic linking is supported.
- EUNICE logical names are now more EUNICE specific. (the EUNICE logicals are now prefixed with "TWG\$"; for example the version 4.2 logical "ETC" is "TWG\$ETC" in this version).
- Clusters are now supported.
- There is now only one shareable library for EUNICE: "TWG_LIBC_43.EXE".
- Franz Lisp is now supported and includes "lisp" and "lispz".
- All EUNICE specific utilities (unixtovms, vmsas, etc.) have been moved to directory /usr/eun. Make sure you put this directory in your path.

Other Upgrades

- The Pascal Compiler has been upgraded to Version 3.7, with no major modifications.
- C has been upgraded to Version 2.4, with no major modifications.
- FORTRAN has been upgraded to Version 4.8.
- Ada has been upgraded to Version 1.5, with no major modifications.

VAX TIPS AND TRICKS

Using Access Control Lists (ACL)

By Billy Barron, VAX System Manager (BILLY@UNTVAX)

Access Control Lists grant or deny individual users or a group of users access to a file. They offer the best method of sharing data on the VAX without allowing unauthorized people to see the data. To see the current ACLs on file, the DIR/ACL command is used:

```
$ DIR/ACL
Directory $1$DUA0:[BILLY.BENCH]
BENCH.ARC;1
(IDENTIFIER=[4JUN84,AC02],
ACCESS=READ+WRITE+EXECUTE)
TPU.TJL;1
Total of 2 files.
```

In this example, TPU.TJL does not have an ACL on it. BENCH.ARC has an ACL for the userid AC02. AC02 has read, write, and execute access to the file. The five access modes are read, write, execute, delete, and none.

ACLs can be added with the SET FILE/ACL command. The syntax of the command is:

```
SET ACL/ACL = (IDENTIFIER =
identifier, ACCESS = access)
filename
```

In the command above, *identifier* is the USER-ID of the account that the ACL affects; *access* are the access modes, separated by pluses, that are granted to the USER-ID; and

filename is the file which the ACL controls the access to. For example:

```
SET ACL/ACL = (IDENTIFIER = AC03,
ACCESS = READ + WRITE) PROG1.FOR
```

The above command grants USER-ID AC03 read and write access to the file PROG1.FOR. To delete all of the ACLs on a file you can use the SET ACL/DELETE command as follows:

```
SET ACL/DELETE filename
```

The SET Command

By Darrell Davis, VAX Operator (DARRELL@UNTVAX) and Stephen DeRudder, VAX Operator (DERUDDER@UNTVAX)

SET is a very useful command that can be used to tailor the VAX environment to suit your application. Several of the most helpful uses of this command are discussed in this article. For more information and a list of all the SET command parameters type **HELP SET** from the DCL \$ prompt.

SET DEFAULT

SET DEFAULT changes where the VAX will look for a file specified without a device or directory. The format of the SET DEFAULT command is:

```
SET DEFAULT Device_Name:[Directory]
```

Device_Name is the disk drive containing the directory. The *Device_Names* are:

DUA0 - system disk

DUA1 - PUBLIC directories containing 'public domain' files

DUA2 - user disk for class accounts

DUA3 - operations files, user directories

DRA0 - user disk for individual account holders

Each device is composed of directories where files are stored. A directory may contain a subdirectory that has its own files. The top level directory of each of those devices is [000000]. To set the default to DUA1 top level directory you type **SET DEFAULT DUA1:[000000]**

If your directory is OQ34 on DUA2 you can set the default several ways:

```
SET DEFAULT DUA2:[000000.OQ34]
```

or ...

```
SET DEFAULT DUA2:[OQ34]
```

or ...

```
HOME
```

The second example didn't specify the top level directory because it knows OQ34 is not the top level directory and therefore searches the next level of directories. If you have created a subdirectory in your directory you may set default to it by entering the following (Where SUB_DIR is the directory name you gave it):

```
SET DEFAULT [OQ34.SUB_DIR]
```

or

```
SET DEFAULT [000000.OQ34.SUB_DIR]
```

When the device is left off the current device is assumed. The device name must always be followed by a colon, ":". The directory name or names must be inclosed in brackets, "[]". When specifying subdirectories separate them with periods, ".". Some examples using SET DEFAULT follow:

SET DEFAULT DUA1:[PUBLIC] - sets your default to the PUBLIC directory on disk DUA1

DIR SET DEFAULT [PUBLIC.INFO] - changes to the 'INFO' subdirectory.

DIR HOME - returns you to your 'home' directory

SET PROMPT

The SET PROMPT command lets you set the DCL prompt. The default DCL prompt is "\$". Some examples using SET PROMPT:

```
$ SET PROMPT="HELLO >"
```

```
HELLO > SET PROMPT="NAME:"
```

```
NAME: SET PROMPT
```

```
$ SET PROMPT="JUNK"
JUNK
```

SET HOST

The SET HOST command connects your terminal to a remote VAX computer. Each VAX is given a node name. There are two local nodes that you can use the command to access, NTVAXA and NTVAXB

These nodes are the two the UNT VAX computers. After you use the command you will have to login to the node. If you are on NTVAXA and your userid is OQ21 you can log into NTVAXB by typing:

```
$ SET HOST NTVAXB
```

```
VAX/VMS Cluster (2 VAX-11/785
CPUs)
```

```
-NTVAXB-
```

```
University of North Texas, Denton, TX
```

```
Username: OQ21
```

```
Password:
```

```
$ LOGOFF
```

```
OQ21 logged out at 15-MAY-1988
```

```
17:38:03.08 Control Returned to node
```

```
NTVAXA::
```

```
$
```

SET PROTECTION

SET PROTECTION is used to alter access to a file. Each file on the VAX has four ACCESS CATEGORIES:

SYSTEM - Anyone with system privileges may be allowed access under this category.

OWNER - The file owner (userid of person creating the file) can access the file in this category.

GROUP - Users with the first two digits of their userid matching the first two digits of the file owner's userid may be allowed access under this category.

WORLD - All users may be allowed access under this category.

Each of the categories of user can be allowed or denied four TYPES of ACCESS:

READ - The right to examine, print or copy the file.

WRITE - The right to modify or write to the file.

EXECUTE - The right to execute a file that is an executable program image.

DELETE - The right to delete the file.

Any combination of the above four TYPES of ACCESS may be specified for any of the four ACCESS CATEGORIES. When using the SET PROTECTION command to alter a file's protection, both the access categories and access types are abbreviated to one character. For example, "O:RWED" means "the Owner of the file has Read, Write, Execute and Delete access to the file."

The format of the SET PROTECTION command is:

```
SET PROTECTION = (protection codes)
filename
```

For example, to set the protection on a file called WORLD.TXT to allow ALL users access to the file, you would type:

```
SET PROTECTION = (W:RWED)
WORLD.TXT
```

Note that you may specify access levels for any or all of the categories at once. For example,

```
SET PROTECTION =
(S:RWE,O:RWED,G:RE,W:RE)
WORLD.TXT
```

allows the following access:

SYSTEM - Read, Write, Execute (but not Delete) access.

OWNER - Full access.

GROUP - Read, Execute (but not Write and Delete) access.

WORLD - Same as GROUP.

To display a file's protection level you can type: **DIR/PROT [filename]**

Here, *filename* is optional, and if not included, ALL files in the directory and their corresponding protection levels will be displayed.

Note that disallowing file access to **SYSTEM** will result in the file NOT getting backed up. This means that if the file is accidentally deleted, the VAX operators will NOT be able to restore the file.

SET BROADCAST

The **SET BROADCAST** command is used to specify the class of message that you want to enable or disable for broadcast to your terminal. The format of the command is:

```
SET BROADCAST = (class-name)
```

where *class-name* is one or more of the following:

ALL - All message classes are enabled.

[NO]MAIL - Notification of 'mail received'.

NONE - All message classes are disabled.

[NO]PHONE - Messages from the phone utility

[NO]QUEUE - Messages referring to print or batch jobs you have submitted.

[NO]USER1 - Messages from local users.

[NO]USER2 - Messages from remote users.

[NO]USER3 - Network messages.

All of the classes are not listed above. Type **HELP SET BROADCAST** for a complete list. To view your current **BROADCAST** settings type **SHOW BROADCAST**.

Examples using **SET BROADCAST**:

```
SET BROADCAST =
(NOMAIL,NOPHONE) - screens out all
PHONE and MAIL messages.
```

```
SET BROADCAST = ALL - enables all
messages.
```

```
SET BROADCAST = NOUSER3 -
disables network messages.
```

```
SET BROADCAST = USER3 - enables
network messages.
```

SET TERMINAL

Changes the VAXs' interpretation of your terminal characteristics. The format of the **SET TERMINAL** command is:

```
SET TERMINAL /qualifier
```

where */qualifier* is one or more of the following:

/BROADCAST/NOBROADCAST - enables or disables all messages broadcast to your terminal such as MAIL notification and the SEND command. To turn off specific messages see **SET BROADCAST**, discussed earlier in this article.

/DEVICE_TYPE=device - informs the system of the terminal type. This should be set to your terminal type, (ex. VT100, VT52).

/INSERT - changes your terminal to insert mode. Allows you to insert characters when you are editing command lines. (opposite of **/OVERSTRIKE**)

/OVERSTRIKE - sets terminal to overstrike mode. Allows you to type over the current character when you are editing a command line (this is the default mode).

/WIDTH = n - Specifies the number of characters on each input or output line (default is 80).

To learn about the many other qualifiers for **SET TERMINAL** type **HELP SET TERMINAL**.

To view your current terminal settings, type **SHOW TERMINAL**.

Example using **SET TERMINAL**:

```
SET TERMINAL /DEVICE = VT100
/INSERT
```

The above sets the terminal type to VT100 and sets the edit mode to **INSERT**.

SET PASSWORD

SET PASSWORD is used to change your login password. Your password should be unique word at least four characters long that is not a personal name and not in the dictionary. For help in generating a new password you can type: **SET PASSWORD /GENERATE**. The VAX will randomly generate passwords for you to choose from.

If you have any questions about the **SET** command you can type **HELP SET** or send mail to **OPERATOR**. ♦

Computer Joke of the Month*

Q: How many data base people does it take to change a light bulb?

A: Three:

- One to write the light bulb removal program.
- One to write the light bulb insertion program, and
- One to act as a light bulb administrator to make sure nobody else tries to change the light bulb at the same time.

These are only test light bulbs, however, since the state auditors will not allow programmers to work on production light bulbs.

* Variation of the "Computer Joke of the Month" published in *Benchmarks*, Vol. 9 No. 1. Submitted by Bob Brookshire (ACS_RGB@JMU VAX1)

VAX CLUSTER USAGE STATISTICS

April Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	61401	12.8
2. SET	VMS Utility	58588	12.2
3. DELETE	VMS Utility	51926	10.8
4. TYPE	VMS Utility	38821	8.1
5. DIRECTORY	VMS Utility	34269	7.1
6. EDT	Editor	32618	6.8
7. SHOW	VMS Utility	26155	5.5
8. User Programs	Compiler Programs	20315	4.2
9. PASCAL	PASCAL Compiler	19655	4.1
10. SYSLOGIN	User Login	16092	3.4
Total		479368	

April Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	11 11:24:55.39	53.9
2. PASCAL	PASCAL compiler	1 22:05:24.62	8.3
3. EDT	Editor	1 15:30:58.97	7.1
4. BACKUP	VMS Utility	0 19:42:45.13	3.5
5. MAXCLAS	ERDAS Utility	0 15:29:52.68	2.8
6. ACC	VMS Accounting Utility	0 12:32:02.16	2.3
7. TDP	PACS+ Billing Utility	0 11:35:16.33	2.1
8. TPU	Editor	0 08:42:46.29	1.6
9. LOGINOUT	User login	0 08:29:54.80	1.5
10. XZZY	BITNET Chatting Utility	0 07:49:59.95	1.4
Total		23 03:37:15.95	

VAXNotes

System-wide Symbol Changes

CHRCONVERT can be accessed by typing **UTILITY** and selecting **CONVERT**.

LASER can be accessed by typing **PRT**.

TTREPROT can be accessed by typing **TTREPORT**.

You will need to include the symbol assignment, illustrated below, in your **LOGIN.COM** if you plan to use any of the listed commands. They are no longer defined automatically when you log in.

DYNAMO -

```
:= = RUN DUA0:[DYNAMO]
DYNAMO
```

LAN -

```
: = = @DUA1:[PUBLIC.UTILITY.
MENU]LAN
```

OLDNEWS -

```
: = = TYPE/PAGE SYSS$INFO:
INFO:OLDNEWS.TXT
```

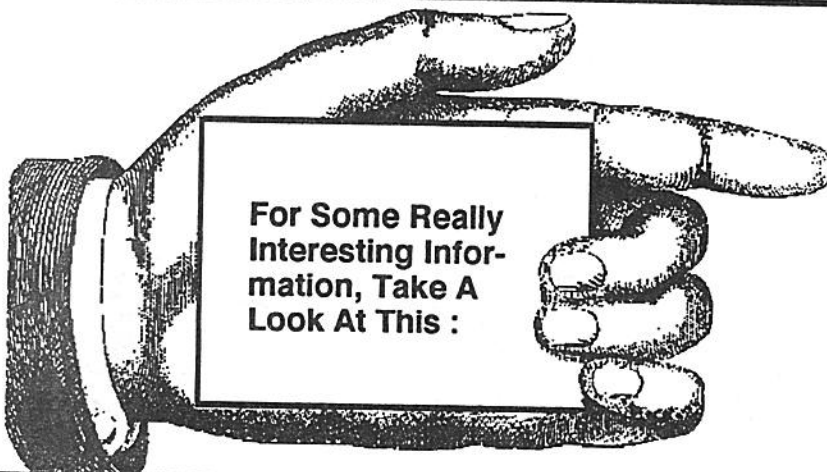
ROSIE -

```
: = = @DUA0:[SUBSYS.ROS]ROS
```

SAVEDIR -

```
: = = @SYSS$UTILITY:
SET_DIRECTORY
```

```
SCHEME - := = RUN DUA0:
[SCHEME]SCHEME1
```



The UNT BBS

If you are interested in bulletin boards, then look no further. The University of North Texas has just the thing for you! To join from your VAX account, just type **BBS** at the VMS prompt and follow the instructions. Once you are a member you will be able to take advantage of such services as electronic mail, public message posting, discussions on various topics, and file transfers. Consult the March/April/May 1988 issue of *Benchmarks* for more information.

ADMINISTRATIVE INFORMATION SYSTEMS

TELEREGISTRATION PROJECT UPDATE

By Don Butler, Student Records Data Systems Team Leader

As was mentioned in the last issue of *Benchmarks*, UNT has entered into a five year agreement with General Telephone and Electric (GTE) to develop five voice response applications for the higher education market. The entire five year project is known as "Project Eagle," with the first application in Project Eagle being the Telephone Registration ("Teleregistration") project.

The Teleregistration Pilot Project conducted in March was, overall, an overwhelming success, with 2,212 students from the College of Education enrolling for classes via touch-tone telephone. We did experience a few periods of unscheduled "down time" due to data communications difficulties. These were the kind of problems that we had hoped to uncover during the pilot project so that they can be corrected before going into full production with the system. Student comments and evaluation results have been reviewed and many of the suggestions have been incorporated into the Spring 1989 early registration plans. From the evaluations, 94% of the respondents felt that Teleregistration was convenient to use, and 87% wanted the system available for schedule revision (add/drop). As a result, the pilot project will be extended to include schedule changes for the Summer I, Summer II, and Fall, 1988 semesters. The Registrar's Office has mailed instructions to those students who are eligible to use the system for schedule revision. ♦

NEW EMPLOYEE HIGHLIGHT

By Douglas Heruska, Documentation Specialist

The Administrative Information Systems group is staffing up to better support the administrative computing needs of the University. Many of the vacant positions announced in the last issue of *Benchmarks* have been filled. We are happy to announce the addition of the following employees.

Curtis Elder has returned to the Student Records Team as a Programmer/Analyst. His experience in Student Records and with the University will be help the team better support the Registrar's office. We're all happy he has decided to return.

Cathy Hardy, a recent BCIS graduate and long time Denton area resident, joined the Student Records team in

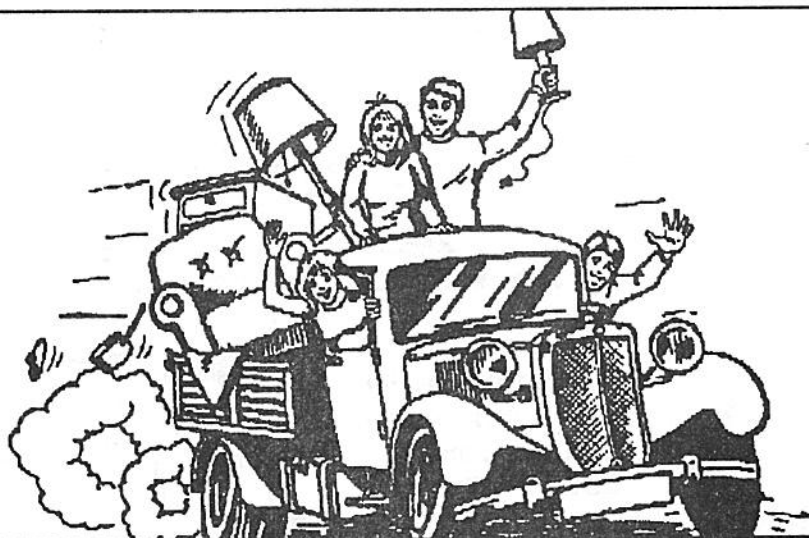
March as a programmer. She previously worked as a Teaching Assistant in the BCIS department and is currently working towards her MBA.

New to the General Systems team is Ginny Haynes. Ginny is a 1987 Baylor graduate and previously worked at Vertex International. She started in March as a Programmer.

Howard Shaw started on the Fiscal Team in April as a Programmer. Howard has worked previously at Moore Business Systems before coming to North Texas.

Sean Widmer has transferred from Academic Computing Services to Administrative Information Systems to take the position of Voice Response Analyst (See related article on page 1 of this issue of *Benchmarks*).

Other positions are in the process of being filled and we will more than likely be back up to staff in the near future. ♦



The Student Records Team is moving to Marquis Hall In June.

COMPUTER SERVICES

Mainframe Performance Statistics

NAS/8083 Dual Processor Performance Statistics for April

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	720	0.08	719.92	2.38	717.54	99.7%
ACAD	MUSIC/SP	720	37.13	682.87	7.06	675.81	97.1%
ACAD	MVS/JES2	720	0.30	719.70	3.35	716.35	99.5%
ACAD	COMPLETA	720	0.35	719.70	6.28	713.37	99.1%
ADMN	MVS/JES2	720	0.17	719.83	3.09	716.74	99.6%
ADMN	COMPLETA	253	0.00	253.00	0.00	253.00	100.0%
ADMN	ADABASA	720	19.64	700.36	3.45	696.91	99.5%

System Uptime = (Production Hours Achieved) / (Planned Production Hours)
 Production Hours Achieved = (Planned Production) - (Unplanned Maintenance)
 Scheduled Operating Hours = (Planned Maintenance) + (Planned Production)
 MUSIC/SP Planned Maintenance Hours include 24.39 hours for system backup and 12.56 hours for VM/SP3 system backup.
 ADABASA'S Planned Maintenance Hours include 19.39 hours for system backup.
 The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for

scheduled operation. Lost productivity hours were contributed to by the key causes appearing in the table below.

ACAD CPU:

CPU, Tape, and Disk Subsystems (NAS)

1. Install Remote Diagnostics on DASD 3.11 HOURS

Miscellaneous

1. Reset CPU clock to daylight savings time. 0.35 HOURS
 2. COMPLETA system maintenance.. 2.22
 3. MUSIC/SP system failures. 2.71
 4. MUSIC/SP system tuning/improvements. 2.54
- TOTAL: 7.82 HOURS
 GRAND TOTAL FOR ACAD 10.93 HOURS

ADMN CPU:

CPU, Tape, and Disk Subsystems (NAS)

1. Install remote diagnostics on DASD. 2.97 HOURS

Miscellaneous

1. Reset CPU clock to daylight savings time. 0.25 HOURS
 2. COMPLETA system failures.. 0.25
 3. COMPLETA system tuning/improvements. 0.25
 4. COMPLETA system down to process single jobs.. 0.70
- TOTAL: 0.73 HOURS
 GRAND TOTAL FOR ADMN: 3.70 HOURS

NAS/8083 Dual Processor Performance Statistics for May

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	744	0.00	744.00	0.25	743.75	99.9%
ACAD	MUSIC/SP	744	36.50	707.50	3.68	703.82	97.5%
ACAD	MVS/JES2	744	0.00	744.00	0.50	743.50	99.9%
ACAD	COMPLETA	744	0.00	744.00	3.23	740.77	99.6%
ADMN	MVS/JES2	744	0.00	744.00	0.38	743.62	99.9%
ADMN	COMPLETA	273	0.00	273.00	0.00	273.00	100.0%
ADMN	ADABASA	744	26.44	717.56	0.60	716.96	99.9%

MUSIC/SP Planned Maintenance Hours include 25.64 hours for system backup and 10.86 hours for VM/SP3 system backup. ADABASA'S Planned Maintenance Hours include 26.44 hours for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production

systems was unavailable for scheduled operation. Lost productivity hours were

contributed to by the key causes appearing in the table below.

ACAD CPU:

Miscellaneous

- | | |
|---|------------|
| 1. Undetermined causes for system restarts. | 0.43 HOURS |
| 2. COMPLETA system maintenance.. | 2.58 |
| 3. MUSIC/SP system tuning/improvements. | 3.62 |

TOTAL: 6.63 HOURS

GRAND TOTAL FOR ACAD 6.63 HOURS

ADMN CPU:

Miscellaneous

- | | |
|---|-------------|
| 1. Unscheduled system restart. | 0.30 HOURS |
| 2. MVS/JES2 system tuning/improvements. | <u>0.30</u> |

TOTAL: 0.60 HOURS

GRAND TOTAL FOR ADMN: 0.60 HOURS

DISK BACKUP SCHEDULES

OS/MVS Backup Schedule

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems on the NAS CPU and their contents is done once every two

weeks at some low activity period over a weekend.

MUSIC/SP Backup Hours

A message will be sent to all users signed on to MUSIC/SP approximately 10 minutes before backups are begun. It will be in the form
****MUSIC SHUT DOWN AT xxxx AM-**

SCHEDULED BACKUP **. To find out the backup hours while signed on to MUSIC/SP, enter **HELP HOURS**. The following backup schedule is currently in effect:

Tuesday 3 a.m. (for about 3 hours)

Weekly backup

Wednesday - Saturday 4 a.m. (for about 2 hours) Daily backup

Saturday Midnight (for about 2 hours)
Daily backup

PHOENIX Backup Hours

PHOENIX is backed up weekly on Sunday night. The backup begins at midnight and lasts for approximately 30 minutes.

VAX Backup Schedule

Incremental backups of the VAXcluster are performed Monday through Thursday at 3 a.m. Users do

not have to log-off, but any files that are open at the time of the backup will NOT be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done once a month. This pro-

cedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut-down for this. Watch the system log-on message for specific times and dates.

NOTE: Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done. ♦

ACADemic (NAS) Program Hit Parade

April Top Ten Programs : Frequency Of Runs

Program	Description	Number of Runs	Percent of Total
1. IKFCBL00	VS COBOL Compiler	27008	15.6
2. PGM = *.DD	Compiled Program	26765	15.5
3. IEWL	Linkage Editor	26616	15.4
4. IEBTPCH	IBM List Utility	24577	14.2
5. IEBGENER	IBM Utility	11473	6.6
6. IEFBR14	IBM Null Utility	7466	4.3
7. SASLPA	SAS	6933	4.0
8. PTPCH	Dataset Lister	6653	3.9
9. IEV90	Assembler H	6539	3.8
10. SCRIPT	Waterloo/SCRIPT	6117	3.8

April Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	137340	48.9
2. PGM = *.DD	Compiled Program	29163	10.4
3. IKFCBL00	VS COBOL Compiler	26794	9.5
4. SPSSX	SPSSX	22560	8.0
5. SCRIPT	Waterloo/SCRIPT	16846	6.0
6. PTPCH	Dataset Lister	6410	2.3
7. ADARUN	ADABAS Utility Module	5256	1.9
8. FATS	Tape Verification Program	5160	1.8
9. IEWL	Linkage Editor	4075	1.5
10. IEV90	Assembler H	3985	1.4

May Top Ten Programs : Frequency Of Runs

Program	Description	Number of Runs	Percent of Total
1. PGM = *.DD	Compiled Program	11868	15.6
2. IEWL	Linkage Editor	10746	14.1
3. IKFCBL00	VS COBOL Compiler	9022	11.8
4. IDCAMS	VSAM Utility	8154	10.7
5. IEBPTPCH	IBM List Utility	7604	10.0
6. IEV90	Assembler H	4594	6.0
7. SASLPA	SAS	4590	6.0
8. SCRIPT	Waterloo/SCRIPT	3903	5.1
9. IEBGENER	IBM Utility	3162	4.1
10. SPSS ^X	SPSS ^X	2361	3.1

May Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	123662	62.8
2. SCRIPT	Waterloo/SCRIPT	12918	6.6
3. PGM = *.DD	Compiled Program	11939	6.1
4. IKFCBL00	VS COBOL Compiler	9575	4.9
5. SPSSX	SPSSX	7856	4.0
6. FATS	Tape Verification Program	6979	3.5
7. IDCAMS	VSAM Utility	3268	1.7
8. IEV90	Assembler H	3010	1.5
9. PTPCH	Dataset Lister	1934	1.0
10. IEWL	Linkage Editor	1707	0.9

The programs listed in this section were used the most frequently on the NAS CPU during the months of April and May, 1988.

Please Note that ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for University administrative purposes is termed ADMN. ♦



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Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling 565-2324.

NAME: _____ PHONE: _____

DEPT: _____ CLASSIFICATION: _____

I wish to attend:

● **Introduction to MUSIC/SP, Part I (ISB 110):**

___ Monday, June 13: 1-3 p.m.

___ Monday, July 18: 2-4 p.m.

● **Introduction to MUSIC/SP, Part II (ISB 110):**

___ Tuesday, June 14: 2-4 p.m.

___ Tuesday, July 19: 3-5 p.m.

● **Introduction to IBM JCL (ISB 123):**

___ Monday, June; 13: 3-5 p.m.

● **Introduction to SAS (ISB 110):**

___ Wednesday, June 15: 3-5 p.m.

___ Wednesday, July 20: 1-3 p.m.

● **Introduction to SPSS-X (ISB 110):**

___ Thursday, June 16: 1-3 p.m.

___ Thursday, July 21: 2-4 p.m.

● **File Handling With SAS, SPSS^X & BMDP (ISB 123):**

___ Monday, June 20: 2-4 p.m.

___ Monday, July 25: 3-5 p.m.

● **Introduction to VAX/VMS, Part I (ISB 110):**

___ Monday, June 20: 2-5 p.m.

___ Monday, July 25: 2-5 p.m.

● **Introduction to BitNet (ISB 110):**

___ Thursday, June 16: 3-5 p.m.

● **Introduction to PROCMM**

___ Wednesday, June 22 : 2-3 p.m.

___ Tuesday, July 26: 2-3 p.m.

● **Introduction to PCWS :**

___ Wednesday, June 22 : 3-4 p.m.

___ Tuesday, July 26: 3-4 p.m.

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